

Bibliography of CIREN Publications and Presentations as of June 2003

2003

- Fakhry SM, Watts DD, Luchette FA. Current Diagnostic Approaches Lack Sensitivity in the Diagnosis of Perforated Blunt Small Bowel Injury: Analysis from 275,557 Trauma Admissions from the EAST Multi-Institutional HVI Trial. *Journal of Trauma*, 2003; 54: 295-305.
- Melton SM, McGwin G, Abernathy JH, MacLennan P, Cross JM, Rue LW. Motor Vehicle Crash-Related Mortality Is Associated with Prehospital and Hospital-Based Resource Availability. *Journal of Trauma*, 2003; 54: 273-279.
- Moran SG, Metzger JS, McGwin G, Alonso JE, Rue LW. Relationship between age and lower extremity fractures in motor vehicle collisions. *Journal of Trauma*, 2003; 54: 261-265.
- Nirula R, Mock CN, Kaufman R, Rivara FP, Grossman D. Correlation of Head Injury to Vehicle Contact Points Using Crash Injury Research and Engineering Network (CIREN) Data. *Accident Analysis & Prevention*, 2003 Mar; 35:201-10.
- Orzechowski KM, Edgerton EA, Bulas DB, McLaughlin PM, Eichelberger MR. Patterns of Injury to Restrained Children in Side Impact Motor Vehicle Crashes: Side Impact Syndrome. *Journal of Trauma*. 2003; 54:1094-1101.
- Rivara FP, Cummings P, Mock C. Injuries and Death of Children in Rollover Motor Vehicle Crashes in the United States. *Injury Prevention*, 2003; 9(1):76-80.
- Watts DD, Fakhry SM. Incidence of Hollow Viscous Injury in Blunt Trauma: An Analysis from 275,557 Trauma Admissions from the EAST Multi-Institutional Trial. *Journal of Trauma*, 2003; 54:289-294.

2002

- Assal M, Huber P, Tencer A, Rohr E, Mock C, Kaufman R. Are drivers more likely to injure their right or left foot in a frontal care crash: a crash and biomechanical investigation. *Proceedings of the 46th Annual Meeting of the Association for the Advancement of Automotive Medicine*, September 30 - October 3, 2002, pp. 273-288.
- Augenstein J, Perdeck E, Stratton J, Digges K, Steps J. Performance of Depowered Airbags in Real World Crashes. Society of Automotive Engineering, 2002-01-0186. Detroit, MI March 4-7, 2002.
- Augenstein JS, Horton T, et al. Neck Injury: The Use of X-Rays, CTs, and MRIs to Study Crash-Related Injury Mechanisms. SAE Textbook. Jeffrey Pike, Ed. October 2002
- Dischinger PC, Kerns TJ, Ho SM, Kufera JA, Burgess AR. Patterns of injury associated with airbag use. *Proceedings of the 6th World Conference on Injury Prevention and Control*. Montreal, Canada, May 12-15, 2002.
- Dischinger PC, Ho SM, Kufera JA, Kerns TJ, Burch CA. Older drivers: Crashes, injuries, outcomes. *Proceedings of the 6th World Conference on Injury Prevention and Control*. Montreal, Canada, May 12-15, 2002.
- Gennarelli FA, Pintar FA, Yoganandan N, Beuse N, Morgan R. Head injuries to nearside occupants in lateral impacts: epidemiological and full-scale crash test analyses. International IRCOBI Conference, Sept 2002, Munich, Germany.
- McGwin G, Reiff DA, Rue LW. Differences in the incidence and etiology of blunt thoracic aortic injury in motor vehicle collisions by age. *Journal of Trauma*, 2002; 52: 859-66.
- Mock C, Grossman D, Rivara F, Kaufman RP, Mack CD, Rivara FP. The relationship between body weight and risk of death and serious injury in motor vehicle crashes. *Accident Analysis and Prevention*, 34: 221-228, 2002.
- Moran SG, McGwin G, Metzger J, Windham ST, Reiff DA, Rue LW. Injury rates among restrained drivers in motor vehicle collisions – The role of body habitus. *Journal of Trauma*, 2002; 52: 1116-20.

- Read KM, Kufera JA, Dischinger PC, Kerns TJ, Burgess AR, Ho SM, Burch CA. Crash Outcomes and Psychosocial Effects (COPE). *Proceedings of the 4th International Conference on Measuring the Burden of Injury*. Montreal, Canada, May 16-17, 2002.
- Read KM, Burgess AR, Dischinger PC, Kufera JA, Kerns TJ, Ho SM, Burch CA. Psychosocial and physical factors associated with lower extremity injuries. Presented at the 46th annual meeting of the Association for the Advancement of Automotive Medicine. Tempe, Arizona, September 2002, pp. 289-303.
- Siegel JH, Smith JA, Tenenbaum N, McCammon L, Siddiqi S, Presswalla F, Pierre-Louis P, Williams W, Zaretsky L, Hutchins K, Perez L, Shaikh J, Natarajan G. Deceleration Energy and Change in Velocity on Impact: Key Factors in Fatal vs. Potentially Survivable Motor Vehicle Crash (MVC). Aortic Injuries (AI): The Role of Associated Injuries as Determinants of Outcome. *46th AAAM Conference Proceedings*, Oct. 2002, pp. 315-338.
- Tencer A, Kaufman R, Ryan K, Grossman D, Henley B, Mann F, Mock C, Rivara F, Wang S, Augenstein J, Hoyt D, Eastman B. Femur Fractures in Relatively Low Speed Frontal Crashes: The possible role of muscle forces. *Accident Analysis and Prevention*, 34 (2002) pp 1-11.
- Tencer A, Mirza S, Bense K. Internal Loads in the Cervical Spine During Motor Vehicle Rear-End Impacts. *Spine*, Vol. 27, No. 1, pp 32-42, 2002.
- Valent F, McGwin G, Hardin W, Johnson C, Rue LW. Restraint use and injury patterns among children involved in motor vehicle collisions. *Journal of Trauma*, 2002, 52(4): 745-51.
- Watts D, Fakhry S, Pasquale M, Kurek S, Malhotra A, Fabian T, Boulanger B. (2002). Motor Vehicle Crash (MVC) And Abdominal Seatbelt Mark As Risk Factors For Perforating Small Bowel Injury (SBI): Results From A Large Multi-Institutional Study. *Proceedings of the Eastern Association for the Surgery of Trauma Fifteenth Scientific Assembly*, January 2002, Orlando, FL
- In Press**
- Augenstein JS, Gaetano C, Figueredo J, Sfakianakis G, Miller J, Burke G. Ex-Vivo Repair and Renal Autotransplantation Following Penetrating Trauma. Is there an Upper Limit of Ischemic/Traumatic Injury Beyond Which a Kidney is Unsalvageable? *Journal of Trauma*, 2002. Accepted for Publication.
- Ebel B, Tencer A, Grossman D, Mock C, Rivara FP. Computer Modeling of Mechanisms of Injury to Restrained Children in Frontal Motor Vehicle Crashes: The Role of the Booster Seat, Submitted to *Injury Prevention*.
- McGwin G, McRae WE, Taylor AJ, Davidson JS, Rue LW. Injury patterns among older adults involved in motor vehicle collisions – The role of near side collisions. Submitted to *Journal of Orthopaedic Trauma*.
- McGwin G, Metzger J, Alonso JE, Rue LW. The association between restraint systems and frontal motor vehicle collision-related morbidity and mortality. *Journal of Trauma*.
- McGwin G, Metzger J, Moran SG, Rue LW. Occupant and collision related risk factors for blunt thoracic aorta injury. *Journal of Trauma*.
- Melton SM, McGwin G, Reiff DA, Waller H, Davidson JS, Vickers S, Rue LW. Common bile duct transection in blunt abdominal trauma: case report emphasizing mechanism of injury and therapeutic management. Submitted, *Journal of Trauma*.
- Metzger J, McGwin G, Rue LW. Is seat belt use associated with fewer days of lost work following motor vehicle collisions? *Journal of Trauma*.
- Patel NN, Wang SC, Marentette L. A complex and unusual penetrating injury of the cheek requiring skull base exploration. *Journal of Trauma*.
- Patel NN, Wang SC. Arterial dissection injury following motor vehicle collision. *Journal of Trauma*.
- Pintar FA, Olshanski J, Yoganandan N. Vehicle Incompatibility Affects Occupant Extrication after Motor Vehicle Crashes. 18th Annual ESV Conference, Nagoya, Japan, May 19-22, 2003, In Press.
- Reiff DA, McGwin G, Rue LW. Risk factors for diaphragm rupture in motor vehicle collisions. Accepted for presentation at the 2002 EAST meeting.
- Reiff DA, McGwin G, Alonso JE, Rue LW. Gender differences in the incidence of below knee fractures following offset frontal motor vehicle collisions. *Journal of Trauma*.
- Reiff DA, McGwin G, Metzger J, Doss M, Rue LW. Identifying injuries and motor vehicle collision characteristics that together are suggestive of diaphragmatic rupture. *Journal of Trauma*.
- Sherwood CP, Shaw VR, Kent RW, Gupta PK, Crandel JR, Orzechowski KM, Eichelberger MR, Kallieris D. Prediction of Cervical Spine Injury Risk for the 6-Year-Old Child in Frontal Crashes. Association for the Advancement of Automotive Medicine. 2002 In Press.
- Wang SC, Schneider LW, Alarcon WH, Knight KM, Kohoyda-Inglis CJ, Macwilliams, JB, Pucci PS, Augenstein JS, Burgess A, Cooper G, Dischinger P, Eastman AB, Grossman D, Hoyt DB, Loo G, Rivara F, Siegel JH, Elliot D, McCullough C, Brown L. High incidence and morbidity of rib fractures in elderly motor vehicle crash occupants. *Journal of Trauma*.

Abstracts & Presentations

2002 CIREN Quarterly Meeting – Presentations

Orzechowski KM, Edgerton EA, Bulas DI, McLaughlin PM, Eichelberger MR. Lateral versus Frontal Motor Vehicle Crash Injuries to Restrained Children in Motor Vehicle Crashes: An Updated Experience from the Crash Injury Research & Engineering Network (CIREN). American Association for the Surgery of Trauma Annual Conference, Orlando, FL, September 2002.

Orzechowski KM, Edgerton EA, Eichelberger MR. Injury Trends Among Children Restrained in Shield Booster Seats. Pediatric Academic Societies' Meeting, Baltimore, MD, May 2002

Orzechowski KM, Edgerton EA, McLaughlin PM, Eichelberger MR. Pediatric Motor Vehicle Crash Injuries Associated with Restraint Misuse. Third National Congress on Childhood Emergencies. Dallas, TX, April 2002

Orzechowski KM, Edgerton EA, McLaughlin PM, Eichelberger MR. CIREN: A Multidisciplinary Approach to the Prevention of Motor Vehicle Crash Injuries. Third National Congress on Childhood Emergencies. Dallas, TX, April 2002

Sherwood CP, Shaw VR, Kent RW, Gupta PK, Crandall JR, Orzechowski KM, Eichelberger MR, Kallieris D. Prediction of Cervical Spine Injury Risk for the 6-Year-Old Child in Frontal Crashes. 46th Association for the Advancement of Automotive Medicine Annual Conference, Tempe Arizona, October 2002.

2001

Augenstein JS, Digges KH, Ogata S, Perdeck E, Stratton J. Development and Validation of the Urgency Algorithm To Predict Compelling Injuries. paper # 352, 17th International Technical Conference on the Enhanced Safety of Vehicles, Proceedings, June 5th 2001

Brown LJ, McCullough CA. A Characterization of CIREN. 17th International Technical Conference on the Enhanced Safety of Vehicles (ESV) Conference, Amsterdam, June 2001.

Fakhry S, Salaita K. (2001). Aggressive Driving: Preliminary Analysis of a Serious Threat to Motorists in a Large Metropolitan Area. *Proceedings of the Fourteenth Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma* (page 122).

Fakhry S, Salaita K. (2001). Aggressive Driving: A Preliminary Analysis of a Serious Threat to Motorists in a Large Metropolitan Area. *Journal of Trauma*.

Funk JR, Rudd RW, King RJ, Srinivasan SCM, Crandall JR. Talar Neck Fractures and Other Injuries Caused by Brake Pedal Loading of the Midfoot and Forefoot. Final Report, University of Virginia, Automobile Safety Laboratory, August 2001

Gotschall CS, Eichelberger MR. Injuries to restrained children in motor vehicle crashes. *Recovery* 2001.

Hanfling D, Watts D, Mayer T, Trask A, Fakhry S. (2001). Forming the Initial Link: Educating Providers in the Guidelines for Pre-hospital Management of Traumatic Brain Injury. *Proceedings of the American College of Emergency Physicians 2001 Research Forum*, October 2001, Chicago, IL.

Moran SG, McGwin G, Reiff DA, Rue LW. The association between body mass index, restraint use, and fatality in motor vehicle collisions. *45th Annual Proceedings of the Association for the Advancement of Automotive Medicine*, 2001, pp 107-123.

Orzechowski KM, Lee JH, Eichelberger MR, Wang SC. Pediatric injuries associated with specific types of restraint misuse. *Proceedings of the International Child Passenger Safety Conference*. 2001.

Peitzman AB, Harbrecht BG, Fakhry S, et.al. (2001). EAST Study of Failure of Observation of Blunt Splenic Injury in Adults. *Journal of Trauma*.

Read KM. On the road again...Psychosocial factors and injury outcomes of motor vehicle occupants over age sixty. *Proceedings of the Aging and Driving Conference sponsored by the Association for the Advancement of Automotive Medicine*. Southfield, Michigan, February 2001

- Rivera L, Peitzman AB, ..., Fakhry S, et.al. (2001). Contributions of Age and Gender to Outcomes of Blunt Splenic Injury in Adults: Multicenter Study of the Eastern Association for the Surgery of Trauma. *Proceedings of the Fourteenth Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma* (p. page 46).
- Siegel JH, Loo G, Dischinger PC, Burgess AR, Wang SC, Schneider LW, Grossman D, Rivera F, Mock C, Natarajan GA, Hutchins KD, Bents FD, McCammon L, Leibovich E, Tenenbaum N. Factors influencing the patterns of injuries and outcomes in car versus car crashes compared to sport utility, van, or pick-up truck versus car crashes: Crash Injury Research Engineering Network Study. *Journal of Trauma*, 51: 975-990, 2001.
- Watts D, Hauda W, Anderson J. The Role of Airbags in Eye Injuries: Protective or Injury Producing? *Annals of Emergency Medicine*. 2001;38(4): 58.
- Watts D, Hauda W, Anderson J. (2001) The Role of Airbags in Eye Injuries: Protective or Injury Producing? American College of Emergency Physicians 2001 Research Forum, October 2001, Chicago, IL

Abstracts & Presentations

- Siegel JH, Smith JA, Tenenbaum N, Siddiqi S, Presswalla B, Pierre-Louis P, Williams A, Zaretsky LL, Hutchins KD, Perez L, Shaikh J, Natarajan G. Quantifying Motor Vehicle crash (MVS) Dynamics in Fatal and Survivable Aortic Injuries (AI). Trauma 2001 Conference, Sydney, Australia, ABSTRACT, 2001.
- 2001 CIREN Quarterly Meeting – Presentations
- Orzechowski KM, Edgerton EA, Eichelberger MR. Injury Trends Among Improperly Restrained Booster Seat Age Children Involved in Motor Vehicle Crashes. American Academy of Pediatrics 2001 National Conference and Exhibition, San Francisco, CA, October 2001

2000

- Augenstein JS, Perdeck E, Bowen J, Stratton J, Horton T, Singer M, Digges KH, Malliaris AC, Steps J. Dummy Measurement of Chest Injuries Induced by Two-Point Shoulder Belts. *Association for the Advancement of Automotive Medicine*, October, 2000.
- Augenstein JS, Perdeck E, Bowen J, Stratton J, Horton T, Singer M, Digges KH, Steps JH. Injuries to Restrained Occupants in Far-Side Crashes. *Association for the Advancement of Automotive Medicine*, October 2000.
- Augenstein JS. Beyond the ER – Epitome of Care. *Recovery*, Summer 2000, Vol. 11, No. 2, pp. 24-26, June, 2000.
- Augenstein JS, Bowen J, Perdeck E, Singer M, Stratton J, Horton T, Rao A, Digges KH, Malliaris AC, Steps J. Injury Patterns in Near-Side Collisions. Society of Automotive Engineering Technical Paper Series 2000-01-0634. Detroit, MI. March 6-9, 2000.
- Horton TG, Cohn SM, Heid MP, Augenstein JS, Bowen JC, McKinney MG, Duncan RC. Identification of Trauma Patients at Risk of Thoracic Aortic Tear by Mechanisms of Injury. *Journal of Trauma*, Vol. 48, No. 6, June 2000.
- Lavery RF, Livingston DH, Tortella BJ, Sambol JT, Slomovitz BM, Siegel JH. The utility of venous lactate to triage injured patients in the trauma center. *J. Am. Coll. Surg.* 190: 656-664, 2000.
- Pintar FA, Yoganandan N, Gennarelli TA. Airbag effectiveness on brain trauma in frontal crashes. 44th Association for the Advancement of Automotive Medicine Conference, Oct 2000, Chicago IL, pp 149-169.
- Rivara F, Koepsell T, Grossman D, Mock C. Effectiveness of automatic shoulder belt systems in motor vehicle crashes. *Journal of the American Medical Association*, Vol 283, pg. 2826-2828, June, 2000.

Abstracts & Presentations

- Loo GT, Siegel JH, Dischinger PC, Wang SC, Grossman D, McCammon L, Tenenbaum N, Natarajan GA, Hutchins KD, Bents FD. The influence of age and gender on the incidence, injury pattern and likelihood of lower extremity fractures sustained by frontal occupants in motor vehicle crashes. CIREN, U.S. Dept. of Transportation, National Highway Traffic Safety Administration, Washington, D.C., ABSTRACT, May 2000.
- Loo GT, Siegel JH, Dischinger PC, Wang SC, Grossman D, McCammon L, Tenenbaum N, Natarajan GA, Hutchins KD, Bents FD. Side impact crashes: effect on occupant injury patterns. CIREN, U.S. Dept. of Transportation - National Highway Traffic Safety Administration, Washington, D.C., ABSTRACT, July 2000.

2000 CIREN Quarterly Meeting – Presentations

1999

- Augenstein JS, Perdeck E, Bowen J, Stratton J, Singer M, Horton T, Rao A. Injuries in Near-Side Collisions. Association for the Advancement of Automotive Medicine, Annual Meeting, September 19-22, 1999.
- Augenstein JS, Perdeck E, Bowen J, Stratton J, Horton T, Singer M, Rao A, Digges KH, Malliaris AC. Injury Patterns Among Belted Drivers Protected by Air Bags in 30 to 35 mph Crashes. Society of Automotive Engineering (SAE), 1999. Windsor, Canada 199 99B-180.
- Brookes C, Wang SC, MacWilliams J. Maxillofacial injuries in North American vehicle crashes. *Proceedings of the British Trauma Society Annual Meeting*, 1999.
- Champion HR, Augenstein JS, Cushing B, Digges KH, Hunt RC, Larkin R, Malliaris AC, Sacco WJ, Siegel JH. Urgency for a Safer America. *AirMed*, March/April, pp. 18-23, 1999.
- Champion HR, Augenstein JS, Cushing B, Digges KH, Hunt RC, Larkin R, Malliaris AC, Sacco WJ, Siegel JH. Reducing highway deaths and disabilities with automatic wireless transmission of serious injury probability ratings from crash recorders to emergency medical services providers. *Proceedings of the National Transportation Safety Board (NTSB) International Symposium on Transportation Recorders*, May 3-5, 1999.
- Cohn S, Dolich M, Matsuura K, Namias N, Kirton O, Shatz D, McKenney M, Sleeman D, Ginzburg E, Byers P, Augenstein J. Digital Imaging Technology in Trauma Education: A Quantum Leap Forward. *Journal of Trauma*. (Submitted April 2, 1999)
- Dischinger PC, Ho SM, Kufera JA. The epidemiology of traumatic brain injury: A statewide study of hospitalized Maryland drivers. *43rd Proceedings of the Association for the Advancement of Automotive Medicine*, pp. 71-88, 1999.
- Gotschall CS, Marchant M, Dougherty DJ, Eichelberger MR. Accuracy of police crash reports in determining child restraint usage and injury severity in the United States. *43rd Annual Proceedings, Association for the Advancement of Automotive Medicine*, 1999
- Gotschall CS, Luchter S, Wing JS. Head injuries to motor vehicle occupants aged 0-5 years. *43rd Annual Proceedings, Association for the Advancement of Automotive Medicine*, 1999.
- Hoyt D, Augenstein J. Aortic Injuries in Near-Side Collisions. Powerpoint presentation from the Third Annual CIREN Conference in San Diego, CA. 1999
- Scally JT, McCullough CA, Brown LJ, Eppinger R. Computers in Clinical Care. *International Journal of Trauma Nursing*, Volume 5, Number 4, October-December 1999

Watts D, Kokiko J. Airbags and Eye Injuries: Initial Assessment and Treatment in the Emergency Department. *Journal of Emergency Nursing*. 1999;25(12):572-574.

Abstracts & Presentations

- Wang SC, Siegel JH, Dischinger PC, Loo GT, Tenenbaum N, Burgess AR, Schneider LW, Bents FD. The interactive effects of age and sex on injury patterns and outcomes in elderly motor vehicle crash occupants. 3rd Annual CIREN Conference, CA, ABSTRACT, 1999.
- 3rd Annual CIREN Conference – October 1999 – Presentations

1998

- Alarcon WH, Klein RD, MacWilliams J, Pucci P, Taheri P, Dries D, Schneider L, Wang SC. Comparison of Outcomes of Passenger-Sedan Occupants from Near-Side Impacts by Sport Utility Vehicles and Pickup Trucks. *Proceedings, 58th Annual Meeting of the American Association for the Surgery of Trauma*, 1998, 180.
- Augenstein JS, Digges KH, Cooper G, Hoyt DB, Eastman B, Burgess A, Dischinger P, Scally J, Wang S, Schneider L., Siegel, JH, Loo G, Grossman D, Rivara F, Eichelberger M, Gotschall C, Lombardo LV, Brown L, Eppinger R. The CIREN Experience. 98-S6-P-21, *Proceedings, 16th International Technical Conference on the Enhanced Safety of Vehicles (ESV)*, May 31-June 4, 1998, Windsor, Ontario, Canada, published by US Department of Transportation, National Highway Traffic Safety Administration, DOT HS 808 759, Vol. 2, pp. 1325-1327, October 1998.
- Augenstein JS, Perdeck E, Williamson J, Stratton J, Horton T, Malliaris AC, Lombardo LV. Injury Patterns Among Air Bag Equipped Vehicles. 98-S1-O-06, *Proceedings, 16th International Technical Conference on the Enhanced Safety of Vehicles (ESV)*, May 31-June 4, 1998, Windsor, Ontario, Canada, published by US Department of Transportation, National Highway Traffic Safety Administration, DOT HS 808 759, Vol. 1, pp. 213-221, October 1998.
- Augenstein JS, Maull, Kimball. *Computers in Health Care. Trauma Informatics: Today's Vision, Tomorrow's Concepts.* Textbook on Trauma Informatics, 1998, Springer Verlag, New York, Inc., Editor.
- Champion HR, Augenstein JS, Cushing B, Digges KH, Hunt RC, Larkin R, Malliaris AC, Sacco WJ, Siegel JH. Automatic Crash Notification. *AirMed*, March/April, pp. 36-39, 1998.
- Copeland CE, Mitchell KA, Brumback RJ, Gens DR, Burgess AR. Mortality in Patients With Bilateral Femoral Fractures. *Journal of Orthopaedic Trauma*, Vol 12, No. 5, pp 315-319, 1998.
- Crandall JR, Martin PG, Sieveka EM, Pilkey WD, Dischinger PC, Burgess AF, O'Quinn TD, Schmidhauser CB. Lower limb response and injury in frontal crashes. *Accident Analysis & Prevention* 30(5): 667-677, September 1998.
- Dischinger PC, Siegel JH, Ho SM, Kufera JA. Effect of change in velocity on the development of medical complications in patients with multisystem trauma sustained in vehicular crashes. *Accident Analysis & Prevention* 30(6): 831-837, 1998.
- Gotschall CS, Better SI, Bulas D, Eichelberger MR, Bents F, Warner M. Injuries to children restrained in 2- and 3-point belts. *42nd Annual Proceedings, Association for the Advancement of Automotive Medicine*, 42:29-44, 1998.
- Gotschall CS, Dougherty DJ, Eichelberger MR, Bents FD. Traffic-related injuries to children: Lessons from real world crashes. *42nd Annual Proceedings, Association for the Advancement of Automotive Medicine*, 42:165-178, 1998.
- Slomovitz BM, Lavery RF, Tortella BJ, Siegel JH, Bachi BL, Ciccone A. Validation of a hand held lactate device in determination of blood lactate in critically injured patients. *Crit. Care Med.*, 26: 1523-1528, 1998.

Abstracts & Presentations

2nd Annual CIREN Conference – September 1998 – Presentations

- Gotschall CS, Better M, Bents F, Eichelberger MR. Biomechanics of air bag injuries to children. *J Trauma* (abstract) 1998; 45:192.
- Gotschall CS, Better AI, Eichelberger MR. Differences in injury severity and costs associated with child restraint misuse. Book of Abstracts, Volume I, and p. 363. 4th World Conference on Injury Prevention and Control, World Health Organization, May 1998.
- Luchter S, Gotschall CS, Walz MC. Injury patterns experienced by infants and children surviving motor vehicle crashes. Book of Abstracts, Volume 1, p. 427. 4th World Conference on Injury Prevention and Control, World Health Organization, May 1998.

1997

- Augenstein JS, Perdeck E, Williamson J, Stratton J, Murtha M, Sapnas K, Digges KH, Malliaris AC, Lombardo LV. Heart Injuries Among Restrained Occupants in Frontal Crashes, The Engineering Society for Advancing Mobility Land Sea Air and Space International (SAE) 1997 Technical Paper Series reprinted from *Occupant Protection and Injury Assessment in the Automotive Crash Environment* (SP-1231) SAE 970392, February, 1997.
- Gotschall CS, Eichelberger MR, Morrissey JR, Better AL, Reardon J, Bents F. Nonfatal air bag deployments involving child passengers. *Child Occupant Protection 2nd Symposium Proceedings*, Society of Automotive Engineers, Warrendale, PA, 1997; 1724.
- Gotschall CS, Eichelberger MR, Morrissey JR, Better AL, Reardon J, Bents F. Injury patterns associated with child restraint misuse. *2nd Child Occupant Protection Symposium Proceedings*, Society of Automotive Engineers, Warrendale, PA, 1997; 187194
- Malliaris AC, Digges KH, DeBlois JH. Relationships Between Crash Casualties and Crash Attributes. Society of Automotive Engineers SAE 970393, February 1997. The development of the **URGENCY** triage algorithm reported in this paper was part of a multidisciplinary team's effort and was presented to the NHTSA Administrator in a briefing March 27, 1997. The multidisciplinary team was led by Champion HR, and included Augenstein JS, Cushing B, Digges KH, Hunt RC, Larkin R, Lombardo LV, Malliaris AC, Sacco WJ, and Siegel JH.
- Paparo PH, Snyder HM, Gotschall CS, Johnson DL, Eichelberger MR. The relationship of two measures of injury severity to children's psychological outcome 3 years after acute head injury. *J Head Trauma Rehab* 1997; 12(3):5167

Abstracts & Presentations

1st Annual CIREN Conference – October 1997 – Presentations

1996

- Augenstein JS, Digges KH, Perdeck EB, Lombardo LV, Malliaris AC. Injuries Sustained by Air Bag Protected Drivers. The Engineering Society for Advancing Mobility Land Sea Air and Space International. (SAE) 1996 Technical Paper Series reprinted from *Occupant Protection Technologies for Frontal Impact: Current Needs and Expectations for the 21st Century*, (SP-1144) SAE 960660, February, 1996.
- Augenstein JS, Perdeck EB, Murtha M, Stratton J, Quigley C, Zych G, Byers PM, Nunez D, Digges KH, Lombardo LV, Malliaris AC. Injuries Sustained by Drivers in Air Bag Crashes. The XIV International Technical Conference on Enhanced Safety of Vehicles. Melbourne, Australia. Paper no. 96-S10-O-01. May 15, 1996.
- Crandall JR, Martin PG, Bass CR, Pilkey WD, Dischinger PC, Burgess AR, O'Quinn TD, Schmidhauser CB. Foot and ankle injury: The roles of driver anthropometry, footwear and pedal control. *40th Proceedings of the Association for the Advancement of Automotive Medicine*, pp 1-18, 1996
- Digges KH, Haffner M, Lombardo L, Stucki L, Malliaris AC, Augenstein JS, Perdeck EB. Challenges in Injury Measurement Technology for Testing of Driver Air Bag Systems. The XIV International Technical Conference on the Enhanced Safety of Vehicles. Melbourne, Australia. Paper no. 96-S10-O-02. May 15, 1996.
- Dischinger PC, Ho SM, Kerns TJ. Patterns of injury in frontal collisions with and without airbags. *Proceedings of the International Research Council on the Biomechanics of Impact*, pp 311-319, 1996.
- Loo GT, Siegel JH, Dischinger PC, Rixen D, Addis MD, O'Quinn T, McCammon L, Schmidhauser CB, Marsh P, Hodge PA, Burgess AR, Bents F. Airbag protection versus compartment intrusion effect determines the pattern of injuries in multiple trauma motor vehicle crashes. *J Trauma* 41(6): 935-951, December 1996.
- National Highway Traffic Safety Administration (NHTSA), "NHTSA Crash Injury Research and Engineering Network," *Annals of Emergency Medicine*, October, 1996; 28:450-451.
- Siegel, JH. Patterns of associated injuries in lower extremity and pelvic MVC trauma: the effect of safety restraints. *PROCEEDINGS NHTSA Conference on Lower Extremity Injuries*, 1996

Pre-CIREN Hospital Crash Injury Studies

1995

- Augenstein JS. Accident Reconstruction in the Air Bag Era. *Miami Medicine*, The Official Publication of the Dade County Medical Association, May 1995.
- Augenstein JS, Digges KH, Lombardo LV, Perdeck EB, Stratton JE, Quigley CV, Malliaris AC. Chest and Abdominal Injuries Suffered by Restrained Occupants. The Engineering Society for Advancing Mobility Land Sea Air and Space International (SAE) 1995 Technical Paper Series reprinted from *Advances in Occupant Protection Technologies for the Mid-Nineties* (SP-1077) SAE 950657, February 1995.
- Augenstein JS, Digges KH, Lombardo LV, Perdeck EB, Stratton JE, Malliaris AC. Occult Abdominal Injury of Air Bag and Automatic Lap-Shoulder Belt Protected Crash Victims: A Challenge to Trauma Systems. *Journal of Trauma*, April 1995.
- Augenstein JS, Digges KH, Malliaris AC, Perdeck EB, Lombardo LV, Stratton J, Nunez D Jr., Byers PM, Quigley CV, Young P, Andron J, Murtha M, Craythorne AK, Zych G. Liver Injuries Associated with 2-Point Belt Restraints in Frontal Crashes. *Accident Analysis & Prevention, 39th Annual Proceedings of Association for the Advancement of Automotive Medicine*, 1995.
- Burgess AR, Dischinger PC, O'Quinn TD, Schmidhauser CB. Lower extremity injuries in drivers of airbag-equipped automobiles: Clinical and crash reconstruction correlations. *J Trauma* 38(4): 509-516, 1995.
- Crandall JR, Martin PG, Sieveka EM, Klopp GS, Kuhlmann TP, Pilkey WD, Dischinger PC, Burgess AR, O'Quinn TD, Schmidhauser CB. The influence of footwell intrusion on lower extremity response and injury in frontal crashes. *39th Proceedings of the Association for the Advancement of Automotive Medicine*, pp. 269-286, 1995.
- Dischinger PC, Kerns TJ, Kufera JA. Lower extremity fractures in motor vehicle collisions: The role of driver gender and height. *Accid Anal Prev* 27(4): 601-606, 1995.
- Dischinger PC. The epidemiology of pelvic and lower extremity fractures among hospitalized drivers. *The Proceedings of the Conference on Pelvic and Lower Extremity Injuries*. National Highway Traffic Safety Administration (NHTSA), Washington, DC, December 4-6, 1995.
- Dischinger, P.C., Siegel, J.H., Ho, S.M., Kufera, J. The effect of impact velocity (Delta V) on development of injury complications in multiple trauma motor vehicle crash patients. *PROCEEDINGS of the 39th Association for Advancement of Automotive Medicine* pp. 367-379, 1995.
- Dischinger PC. Injury Surveillance: The Role of Data Linkage. *Proceedings of the International Collaborative Effort on Injury Statistics*, Vol. 1, CDC DHHS Publication No. (PHS) 95-1252
- Sturm PF, Glass RBJ, Sivitt CJ, Eichelberger MR. Lumbar Compression fractures secondary to lap belt use in children. *J Pediatric Orthopaedics*, 1995; 15:521-523.
- Siegel JH. The Effect of Associated Injuries, Blood Loss, and Oxygen Debt on Death and Disability in Blunt Traumatic Brain Injury: The Need for Early Physiologic Predictors of Severity. *Journal of Neurotrauma*, Vol 12, No. 4, 1995.

1994

- Augenstein JS, Digges KH, Lombardo LV, Perdeck EB, Stratton JE, Quigley CV, Malliaris AC. Airbag Protected Crash Victims – The Challenge of Identifying Occult Injuries. The Engineering Society for Advancing Mobility Land Sea Air and Space International (SAE) 1994 Technical Paper Series reprinted from *In-Depth Accident Investigation: Trauma Team Findings in Late Model Vehicle Collisions* (SP 1042) SAE 940714, February 1994.
- Augenstein JS, Perdeck EB, Stratton J, Digges KH, Lombardo LV, Malliaris AC. Injuries Sustained by Air Bag Occupants in Frontal Crashes. The XIII International Technical Conference on Enhanced Safety of Vehicles, Paper no. 94-S4-O-18, 1994.
- Bents FD, Dischinger PC, Siegel JH. Trauma center based crash investigation research: Methodologies and applications. *In-Depth Accident Investigation: Trauma Team Findings in Late Model Vehicle Collisions*, Warrendale, Society of Automotive Engineers, Inc, 1994, pp 1-10.
- Dischinger PC, Burgess AR, Cushing BM, O'Quinn TD, Schmidhauser CB, Ho SM, Juliano PJ, Bents FD. Lower extremity trauma in vehicular front-seat occupants: Patients admitted to a Level 1 trauma center. *In-Depth Accident Investigation: Trauma Team Findings in Late Model Vehicle Collisions*, Warrendale, Society of Automotive Engineers, Inc, 1994, SAE 940710, pp 11-18.
- Dischinger PC, Burgess AR, Cushing BM, Pilkey WD, Crandall JR, Sieveka EM, Klopp GS. Lower extremity trauma in vehicular front-seat occupants. Shieh SJ (ed), *Proceedings of the Injury Prevention through Biomechanics Symposium*, Michigan, Centers for Disease Control, Wayne State University, 1994, pp 29-42.
- Gokcen EC, Burgess AR, Siegel JH, Mason-Gonzalez S, Dischinger P, Ho SM. Pelvic fracture mechanism of injury in vehicular trauma patients. *J Trauma* 36(6): 789-796, 1994.
- Gotschall C, Morrissey R, Moront M, Eichelberger, M. Restraint-related injury to children in motor vehicle crashes. In: Vossoughi J, ed. *Biomedical Engineering Recent Developments*. Washington, DC: Engineering Research Center, University of the District of Columbia, 1994; 598-601.
- Moront ML, Gotschall CS, Eichelberger MR, Morrissey JR, Manktelo A. Analysis of injuries to restrained children in frontal vs. non-frontal motor vehicle crashes. *Journal of Trauma* 1994; 37:1017.
- Siegel JH, Shafi S, Goodarzi S, Dischinger PC. A quantitative method for cost reimbursement and length of stay quality assurance in multiple trauma patients. *J Trauma* 37(6): 928-937, 1994.

1993

- Bulas DI, Fitz CR, Johnson DL. Traumatic Atlanto-Occipital Dislocation in Children. *Radiology*, 1993;188:155-158.
- Dischinger PC, Siegel JH, Read KM, Mason-Gonzalez S. The role of medical conditions in high-speed car crashes. *37th Proceedings Association of Advancement of Automotive Medicine* 423-424, 1993.
- Dischinger PC, Cushing BM, Kerns TJ. Injury patterns associated with direction of impact: Drivers admitted to trauma centers. *J Trauma* 35(3): 454-459, 1993.
- Gotschall CS, Bents FD, Khaewpong N, Sturm PF, Sivitt CJ, Eichelberger MR. The performance of lap/shoulder belts in restraining children in motor vehicle crashes. *Child Occupant Protection* (SP-986). Warrendale, Pennsylvania: Society of Automotive Engineers 1993.
- Gotschall CS, Khaewpong N, Bents FD, Sivitt CJ, Sturm P, Morrissey JR, Eichelberger MR. Crash-related injuries to restrained children aged 3 to 6 years. In: Abstracts: American Public Health Association. Washington DC: American Public Health Association 1993; 391.
- Gotschall CS, Eichelberger MR, Sivitt CJ, Sturm PF. Child booster seats: What works, what doesn't. In: Abstracts: Workshops, Oral Presentations, Poster Sessions, The Second World Conference on Injury Control. Atlanta, Georgia: Centers for Disease Control and Prevention 1993; 265-266
- Lombardo LV, Ryan SD. Detection of Internal Injuries in Drivers Protected by Air Bags. *NHTSA Research Note*, August 1993.
- Powell DM, Gotschall CS, Khaewpong N, Morrissey JR, Eichelberger MR. Biomechanics of crash-related injury to restrained children. *Journal of Trauma* 1993; 35:168.
- Siegel JH, Mason-Gonzalez S, Dischinger PC, Read KM, Cushing BM, Badellino MC, Goodarzi S, Smialek JE, Heatfield BM, Robinson RM, Parkison K, Hill WJ, Jackson JW, Livingston DJ, Bents FD, Clark CC. Causes and costs of injuries in multiple trauma patients requiring extrication from motor vehicle crashes. *J Trauma* 35(6): 920-931, 1993.
- Siegel JH, Mason-Gonzales S, Dischinger P, Cushing B, Read K, Robinson R, Smialek J, Heatfield B, Hill W, Bents F, Jackson J, Livingston D, Clark C. Safety Belt Restraints and Compartment Intrusions in Frontal and Lateral Motor Vehicle Crashes: Mechanisms of Injuries, Complications, and Acute Care Costs. *Journal of Trauma*, Vol. 5, No. 34, 1993.

1992

- Dischinger P, Cushing B, Kerns T. Lower extremity fractures in motor vehicle collisions: Influence of direction of impact and seatbelt use. *36th Proceedings of the Association for the Advancement of Automotive Medicine*, pp. 319-325, 1992.
- Shalaby-Rana E, Eichelberger MR, Kerzner B, Kapur S. Intestinal stricture due to lapbelt injury. A report of two cases. *Amer J Radiology*, 1992; 158, 63-64.
- Siegel JH, Dischinger P. *The Medical Consequences of Car Crashes: An Automobile Crash Trauma Study*, Vols. I, II, III, IV, NHTSA Reports DOT HS 808 156, 808 157, 808 158, and 808 159, July 1992.

1991

- Bond SJ, Gotschall CS, Eichelberger MR. Predictors of Abdominal Injury in children with pelvic fracture. *J Trauma* 1991; 31: 1169-1173
- Newman K, Bowman LM, Eichelberger MR, Taylor GA, Johnson D, Loe W, Gotschall CS. The lap belt complex: intestinal and lumbar spine injury in children. *J The Institute for Injury Reduction*, 1991; 1:54-61.
- Simpson D, Cushing B, Birschbach J, Siegel JH, Dischinger P, Burgess A, Jackson J, Livingston D, Bents F, et al. Direction of collision forces: Concordance of police accident reports and crash investigation findings. *Proceedings 35th Conf. of the Association for the Advancement of Automotive Medicine*, pp. 261-267, 1991.
- Siegel JH, Gens DR, Mamantov T, Geisler FH, Goodarzi S, MacKenzie EJ. Effect of associated injuries and blood volume replacement on death, rehabilitation needs and disability in blunt traumatic brain injury. *Crit. Care Med.*, 19(10):1252-1265, 1991.
- Sivit CJ, Taylor GA, Newman KD, Bulas DI, Gotschall CS, Wright CJ, Eichelberger MR. Safety belt injuries in children with lap-belt ecchymosis: CT findings of 61 patients. *Amer J Radiology*, 1991; 57: 111-114.acts & Presentations

1990

- Newman K, Eichelberger MR, Bowman LM, Taylor GA, Loe W, Gotschall CS. The lap belt complex: Intestinal and lumbar spine injury in children. *Journal of Trauma* 1990; 30: 1133-1140.
- Siegel JH, Mason-Gonzalez S, Cushing BM, Dischinger PC, Cornwell EC, Smialek JE, Heatfield BM, Soderstrom CA, Read KM, Robinson RM, Parkinson K, Dailey JT, Hill WJ, Jackson JW, Livingston DJ, Bents FD, Shankar BS. A prospective study of injury patterns, outcomes, and costs of high speed frontal versus lateral motor vehicle crashes. *Proceedings, 34th Conference, Association for the Advancement of Automotive Medicine*, pp. 289-314, 1990.
- Siegel JH, Dalal SA, Burgess AR, Young JWR. Pattern of organ injuries in pelvic fracture: Impact force implications for survival and death in motor vehicle injuries. *Acid. Anal. & Prev.*, 22(5):457-466, 1990.

Early Studies

- Ommaya AK, Digges KH. A Study of Head and Neck Injury Mechanisms by Reconstruction of Automobile Accidents. *Proceedings of IRCOBI Conference*, Goteborg, Sweden, 1985.
- Champion HR, Copes WS, Craig M, Morelli S, Keast S, Bain L. *A Preliminary Study of Head and Neck Trauma of Automobile Crashes, and their Consequences*, NHTSA Report DOT HS 807 052, Washington, DC, June 1986.
- Ommaya AK. Mechanisms and Preventive Management of Head Injuries: A Paradigm for Injury Control. *32nd Annual Proceedings, Association for the Advancement of Automotive Medicine*, September 12-14, 1988.
- MacKenzie, E.J., Siegel, J.H., Shapiro, S., Moody, M., and Smith, R.T. Functional recovery and medical costs of trauma: An analysis by type and severity of injury. *J. Trauma*, 28(3): 281-297, 1988.
- MacKenzie, E.J., Shapiro, S., and Siegel, J.H. The economic impact of traumatic injuries: One year treatment related expenditures. *JAMA*, 260(22): 3290-3296, 1988.
- Jones IS, Champion HR. Trauma Triage: Vehicle Damage as an Estimate of Injury Severity. *Journal of Trauma*, Vol. 29, No. 5, May 1989, p. 646.
- Dalal SA, Burgess AR, Siegel JH, Young JW, Brumback RJ, Poka A, Dunham CM, Gens D, Bathon GH. Pelvic fracture in multiple trauma: Classification by mechanism is key to pattern of organ injury, resuscitative requirements and outcome. *J. Trauma*, 29(7): 981-1002, 1989.
- Garcia VF, Gotschall CS, Eichelberger MR, Bowman LM. Rib fractures in children: A marker of severe trauma. *Journal of Trauma* 1989; 29:1726.
- Rivkind AI, Siegel JH, Dunham M. Patterns of organ injury in blunt hepatic trauma and their significance for management and outcome. *J. Trauma*, 29(10): 1398-1415, 1989.
- Siegel JH, Dalal SA, Burgess AR, Young JWR. Pattern of organ injuries in pelvic fracture: Impact force implications for survival and death in motor vehicle injuries. *PROCEEDINGS: 33rd Conf. of Assoc. for Advancement of Automotive Medicine* (pp. 353-366), 1989

References

- Hoover, H, *First National Conference on Street and Highway Safety*, Department of Commerce, Washington, DC, Dec 15-16, 1924. Available at http://www1.librarydigital.com/scripts/ws.dll?login&site=.dot_highways
- Haddon, W, *Accident Research – Methods and Approaches*, Harper & Row, New York, 1964
- National Committee on Trauma and Committee on Shock, *Accidental Death and Disability: The Neglected Disease of Modern Society*, National Academy of Sciences, Washington, DC, September, 1966.
- Robertson JS, McLean AJ, Ryan GA, *Traffic Accidents in Adelaide, South Australia*, Australian Road Research Board, Special Report No. 1, 1966.
- Perrine MW, Waller JA, Harris LS, "Alcohol and Highway Safety; Behavioral and Medical Aspects," Final Report to Department of Transportation, NHTSA, DOT HS 800 599, 1971.
- Ryan GA, "The emergency care of traffic injury: care before hospital. *Med. J. Aus.* 1: 1173, 1972.
- Clark PD, Ryan GA, "The emergency care of traffic injury: time delays during casualty care," *Med. J. Aus.* 1: 1217, 1973.
- Ryan GA, "Casualty Care in Car Crashes," *International Journal of Epidemiology*, Vol. 3, No. 1, Oxford University Press, 1974.
- HUK-Verband, "Interior Safety of Automobiles – Road Traffic Accidents and their Consequences," A Study by German Motor Traffic Insurers on 28,936 Car Crashes with Passenger Injury, Hamburg Germany, 1975
- Foley RW, Harris LS, Pilcher DB, "Abdominal Injuries in automobile accidents: review of care of fatally injured patients", *Journal of Trauma*, 1977, August, 17(8): 611-5.
- Kaufman G, Bilge B, *Effects of Automobile Accidents Upon American Families*, 1982, DOT HS 806-315, PB 83 156 539.
- Rubin LR, *Children in Automobile Accidents: The Effects on the Family*, 1982, DOT HS 806 316, PB 83 161 877.
- Trunkey DD, "Trauma", *Scientific American*, Aug. 1983, Vol. 249, No. 2, pp.28-35.
- Committee for the Study of Health Consequences of the Stress of Bereavement, National Academy of Sciences, *Bereavement – Reactions, Consequences, and Care*, Washington, D.C., 1984.
- Committee on Trauma Research, *Injury in America*, Institute of Medicine, National Academy of Sciences, Washington, DC 1985.
- Ommaya AK, Digges KH, "A Study of Head and Neck Injury Mechanisms by Reconstruction of Automobile Accidents," *Proceedings of IRCOBI Conference*, Goteborg, Sweden, 1985.
- Champion HR, Copes WS, Craig M, Morelli S, Keast S, Bain L, *A Preliminary Study of Head and Neck Trauma of Automobile Crashes, and their Consequences*, NHTSA Report DOT HS 807 052, Washington, DC, June 1986.
- Ommaya AK, "Mechanisms and Preventive Management of Head Injuries: A Paradigm for Injury Control," *32nd Annual Proceedings*, Association for the Advancement of Automotive Medicine, September 12-14, 1988.
- Trinca G, Johnston I, Campbell B, Haight F, Knight P, Mackay M, McLean J, Petrucelli E, *Reducing Traffic Injury – A Global Challenge*, Royal Australasian College of Surgeons, 1988.
- Jones IS, Champion HR, "Trauma Triage: Vehicle Damage as an Estimate of Injury Severity," *Journal of Trauma*, Vol. 29, No. 5, May 1989, p. 646.
- Finelli FC, Jonsson J, Champion HR, Morelli S, Fouty WJ, "A case control study for major trauma in geriatric patients", *Journal of Trauma*, Vol. 29, No.5, May 1989, p. 541.
- Rice DP, MacKenzie EJ, *Cost of Injury in the United States – A Report to Congress*, National Highway Traffic Safety Administration, U.S. Department of Transportation and Centers for Disease Control, U.S. Department of Health and Human Services, 1989
- Siegel JH, Mason-Gonzales S, Dischinger P, Cushing B, Read K, Robinson R, Smialek J, Heatfield B, Hill W, Bents F, Jackson J, Livingston D, Clark C, "Safety Belt Restraints and Compartment Intrusions in Frontal and Lateral Motor Vehicle Crashes: Mechanisms of Injuries, Complications, and Acute Care Costs," *Journal of Trauma*, Vol. 5, No. 34, 1993. See also Siegel JH, Dischinger P, *The Medical Consequences of Car Crashes: An Automobile Crash Trauma Study*, Vols. I, II, III, IV, NHTSA Reports DOT HS 808 156, 808 157, 808 158, and 808 159, July 1992.
- Esposito TJ, Reynolds SA, Sanddal ND, Hansen JD, Rinker CF, Dale G, Maningas PJ, O'Reilly PJ, Bleicher J, Petrashek B, *Rural Preventable Mortality Study*, NHTSA Report DOT HS 807 973, Washington, DC, Dec. 7, 1992.
- Lombardo LV, Ryan SD, "Detection of Internal Injuries in Drivers Protected by Air Bags," *NHTSA Research Note*, August 1993.